

Date: Thu, 12 Aug 93 15:29:20 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #974  
To: Info-Hams

Info-Hams Digest                      Thu, 12 Aug 93                      Volume 93 : Issue    974

Today's Topics:

                    900 meg bandplan???  
            Code learning questions (2 msgs)  
                    DEATH?  
                    electrical grounding...  
    If I call FCC, can they tell me what my new call is?  
                    Kenwood R1000 mods?  
            Question on Letter/Word Representations  
                    Six Meter Beacon Frequencies?  
    training programs for amateur radio operators in emerg svc

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: 12 Aug 93 17:44:22 GMT  
From: microsoft!wingnut!edmitch@uunet.uu.net  
Subject: 900 meg bandplan???  
To: info-hams@ucsd.edu

There are a wide variety of Part 15 devices operating in the 902-928 MHz band.  
NCR's WaveLAN operates a direct sequence spread spectrum data LAN here. Telxon's  
handheld retail terminals also operate DS SS here. This fall, a variety of  
cordless telephones using digital SS will operate in this band. These consumer  
level phones were shown at the Consumer Electronics Show earlier this year. I  
believe  
most will have a power level around 1/4w to 1/2w (battery life is a key issue for  
them). I know that some have claimed that in the clear, your handheld SS 902 MHz  
cordless phone will operate over distances measured in miles.

Teletrac and other vehicle location systems will roll out nationwide as a primary user of this band. Most hams have not appreciated that all of our UHF allocations are "junk" bands. To some extent this is a blessing - we would have a hard time justifying our access (hey, I believe we deserve them but its hard to convince others sometimes) to some of these bands if it were not that their "poor quality" renders them less than suitable for Landmobile and other functions. If you've listened to PAVE/PAWS radar on 430-450 MHz, microwave ovens on 2.4 GHz, or soon to come, doppler wind shear radar on 448-450 MHz everywhere, you'll know what I mean about "junk bands". Paying customers couldn't justify the noise we put up with so they leave us alone so far. But the advent of digital spread spectrum enables new devices to live with more noise than before - and consequently, you will see greatly

increased use of 902-928 and 2400-2483 MHz Part 15 operations Real Soon Now. Fortunately, Part 15 devices are third class citizens and I suspect they will stay that way. Ham interference to them is probably going to be less of a problem than Part 15 to Part 15 interference, microwave oven interference, and other high power users like Teletrac. That's good news for keeping at least some limited access to these bands. I know, its hard to see how any of this is good news, but I'm trying to look at the bright side.

Ed Mitchell  
KF7VY

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Date: Thu, 12 Aug 1993 00:52:14 GMT  
From: well!moon!pixar!mongo!bruce@uunet.uu.net  
Subject: Code learning questions  
To: info-hams@ucsd.edu

I'm trying to get to 20 WPM code for the extra class license. I've passed the theory tests through advanced, and extra theory won't be a problem.

I can recognize individual characters at 35 WPM without trouble, but can't keep up with word rates much beyond 13 WPM. I practice for about an hour each day. First I download the Associated Press news summary from Compuserve, and have Morse Academy send that while I copy in my head, using 13 WPM word rate and 22 WPM characters. Then I have Morse Academy send random code groups that I type back to it on the keyboard. I'm currently using three-character code groups at 22 WPM word rate and 22 WPM character rate, and will use longer groups once I copy better. I used 5-9 character groups at lower speeds. I have Jerry Ziliak's "Code Words" tape, which I've used to learn to recognize simple words like TX RX WX HW CPY OM QSL and so on at high speed. I have a few questions:

1. Am I doing something really wrong? Progress comes very slowly. It's getting rather frustrating.

2. I see claims about people copying at astounding rates, some claim 75 WPM. Can these people copy random character groups at this speed?
3. Do most hams who copy at 20 WPM only recognize "the usual QSO words" at that rate? I suppose it's enough to pass the test, but I'd hate to be able to say nothing more than WX HERE IS HOT RIG IS FT-301D ANT IS ISOLLOOP TNX FER NICE QSO OM 73.
4. Is there a "Farnsworth" variation where it is the word space that is lengthened rather than the character space? I would think that this would aid training in word recognition. Is there any PC software that implements this?

Thanks

Bruce Perens KD60TD

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Date: Thu, 12 Aug 1993 18:49:03 GMT  
From: news.Hawaii.Edu!uhunix3.uhcc.Hawaii.Edu!jherman@ames.arpa  
Subject: Code learning questions  
To: info-hams@ucsd.edu

In '76, when I sat for my General at the San Francisco FCC office, the test consisted of coded groups; we had to copy 1 solid minute of error-free code out of the X minutes it was sent. At the end we were ordered to immediately put down our pencils - no corrections were to be made. When was this type of test procedure changed, and why? (I was out of the hobby for 5 years or so...)

Jeff, NH6IL

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Date: 12 Aug 93 21:16:11 GMT  
From: ogicse!hp-cv!hp-pcd!hpspk1a!depaul@network.ucsd.edu  
Subject: DEATH?  
To: info-hams@ucsd.edu

Hello Folks.

I'm using an antenna tuner that requires a balanced coax input...That's nice, except now I've just purchased an amp, and was wondering if it will cause me death or the rig's or the amp!

Here's a little more detail...

I'm feeding my balanced antenna tuner with a balanced coax line (made by 22 turns of coax around an air core). I want to place that balanced line between the rig and the amp, and attach a straight piece of coax between the amp and the tuner...Will that idea hurt me, the amp, or the rig? And will the line still be balanced by the time it gets to the input of the antenna tuner?

I feel that this balanced input to the amp idea won't make a damn bit of difference, BUT you may know better!

Please let me know.

Thanks,

Marc DePaul

-----  
Date: 12 Aug 93 17:19:26 GMT  
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu  
Subject: electrical grounding...  
To: info-hams@ucsd.edu

In article <24cd2q\$9jd@news1.digex.net> dale@access.digex.net (Dale Farmer) writes:

> When you have multiple grounds that are independently tied to  
> earth you are running a non trivial safety hazard, and can introduce a lot  
> of interference to your gear from ground loops. Because the earth has  
> different resistances at different places, all of these grounding points  
> will be at slightly different voltages, sometimes not so slight. A ground  
> loop is where one piece of gear is grounded to say the electrical service  
> ground, (like the transmitter) and another piece of gear is tied to a  
> shack ground. (like say a tuner or something) The voltage difference tries  
> to equalize thru the path of least resistance, which is also the signal  
> path, poof ugly noise in your audio.

>  
> I simplified things a lot but I don't feel like typing for the  
> next three hours.

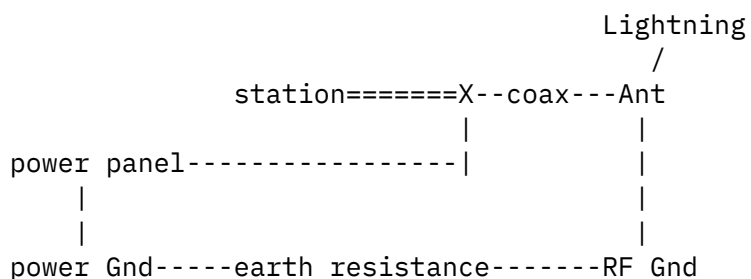
>  
> What you should do, (and if you live in the US, is probably the  
> law) is to create somewhere in your house or whatever, is a grounding  
> bus. This is a heavy gauge (usually) copper block with a bunch of screw  
> terminals for attaching heavy gauge wire to. This is tied to the  
> electrical service entrance ground, the water pipe, the ground stakes,  
> the foundation, the building steel, everything. Then from the ground bus  
> you run a nice heavy solid copper isolated ground to your shack.  
> Everything in your shack that does not get a ground from the power outlet



|-----copper bond-----|

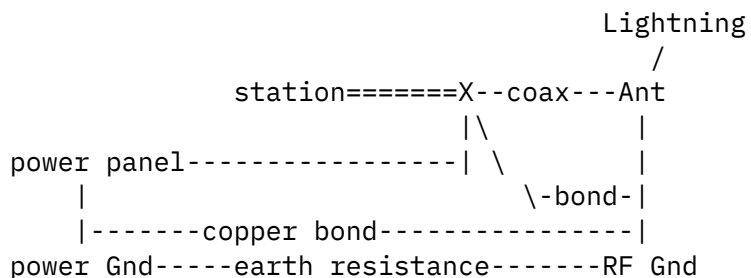
This shunts the ground resistance between them. That still leaves you with two paths for lightning current to flow, through the bond wire, and through station wiring. But now station wiring isn't the obviously superior path and less current will flow through the station equipment. This still isn't very good since lightning currents can be very large and even a small fraction of that current can still cause equipment damage.

The second approach is a little more subtle. It's called the ground window approach and looks like this:



The X is the ground window where the coax shield and the power safety wire are bonded together, and where hot power leads and coax centers are attached to suppressors which are connected to the same single point. Now there are no loops through the station equipment except for low level voltages below the suppressor thresholds. Now when lightning strikes, there are still two paths for the current, through the RF ground, and through the coax to the ground window and through the safety wire to power panel ground. Neither goes through your equipment. This is much better.

You can now combine the two approaches and get the following configuration:



This gives the best protection. Note that the station now floats at the potential of X. Since X is grounded, that's fine for ordinary electrical safety. This point's potential can rise during a strike, but there's no path for current through the station since all wires connected to the station must first pass through X and have their

potentials equalized. Current can't flow between two points of equal potential.

Some further notes on the ground window. \*Every\* wire that enters or leaves the station must pass through the ground window and be bonded either directly or through suppressors to the common point ground. There should be no daisy chain grounds between the pieces of station equipment. Each piece should ground separately to the common point. To prevent RF current loops in the station, the common point should be physically close to the station equipment.

Note that you \*can\* bond all the equipment directly together if you do it right, in essence making one big box, such as by rack mounting. The key is to get a low resistance \*and\* low inductance connection capable of handling very high surge currents. A number 10 wire looped box to box on a wooden desk is unlikely to suffice.

And most important, all leads from the common point to ground should be as low inductance as possible. The major source of voltage rise during a lightning strike is voltage developed across the inductance of the ground path wiring, not it's, usually very low, resistance. Note also that the ground window, and your station equipment can rise in potential during a strike. This can present a safety hazard to personnel, but \*no more so\* than with other ordinary wiring practices. The key point to remember here is that, during lightning strikes, ground points are not zero potential and contacting \*any\* electrical equipment may be hazardous to your health. \*Back off\* until the storm subsides.

There's a sticky problem that can arise with interconnections between different boxes of station equipment. For example, the coax connecting a transceiver to an amplifier or tuner will form a daisy chain connection between the boxes. That won't normally cause problems with respect to lightning as long as the boxes are all connected to the common point, but it can cause RF loops that can upset operations. That's especially true at VHF and above where the connections become an appreciable fraction of a wavelength. The approach to solving that problem is the same. Route these interconnect cables through the ground window as well and ground their shields to it. That shorts the loops. That won't always work, however, since you may get mutual inductive coupling between the wires running from the common point back to station equipment. Experimentation with wire lengths and placement is the only cure in this case. (Ferrite chokes slipped over the coax can help too in some stubborn cases of RF loops.)

Your station \*can\* survive direct lightning hits, broadcast stations do it during every storm, but attention to detail is \*critical\* to making that happen. One stray connection that fails to follow the rules can trash an otherwise perfectly protected installation. Lightning is no

different than other electrical phenomina, it has no mysterious mind of it's own. It has to follow the same electical laws as a flashlight. If you understand Kirchoff's laws, Ohm's law, and how to calculate inductive and capacitive reactance for a stepped waveform, you can understand how lightning voltages and currents behave with respect to station equipment and wiring.

Gary

--

|                             |  |              |  |                          |
|-----------------------------|--|--------------|--|--------------------------|
| Gary Coffman KE4ZV          |  | You make it, |  | gatech!wa4mei!ke4zv!gary |
| Destructive Testing Systems |  | we break it. |  | uunet!rsiatl!ke4zv!gary  |
| 534 Shannon Way             |  | Guaranteed!  |  | emory!kd4nc!ke4zv!gary   |
| Lawrenceville, GA 30244     |  |              |  |                          |

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Date: 12 Aug 93 17:47:28 GMT  
From: microsoft!wingnut!edmitch@uunet.uu.net  
Subject: If I call FCC, cab they tell me what my new call is?  
To: info-hams@ucsd.edu

Only if the call has been issued can they tell what the callsign will be. My wife was licensed several years ago. And since we were moving in a few months we were concerned about receiving the license prior to the move. So around 8+ weeks, I called the FCC licensing office and they were able to tell us that the license was issued and mailing out that day. They did also give out the callsign at that time with a reminder that the callsign could not be used until the license was received.

Ed Mitchell  
KF7VY

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Date: Thu, 12 Aug 1993 12:41:04 GMT  
From: cs.yale.edu!ccsua.ctstateu.edu!white@yale.arpa  
Subject: Kenwood R1000 mods?  
To: info-hams@ucsd.edu

Does anyone know of any mods for the Kenwood R1000?  
Thx  
Harry  
white@csusys.ctstateu.edu

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Date: Thu, 12 Aug 1993 18:06:47 GMT  
From: overload.lbl.gov!agate!howland.reston.ans.net!europa.eng.gtefsd.com!



darwin.sura.net!math.ohio-state.edu!usc!sdd.hp.com!vixen.cso.uiuc.edu!  
newsrelay.iastate.edu!news.@dog.ee.lbl.gov  
Subject: Question on Letter/Word Representations  
To: info-hams@ucsd.edu

In article <CBEp8E.89s@murdoch.acc.Virginia.EDU> jeg7e@livia.acs.Virginia.EDU (Jon Gefaell) writes:

>One good place to find these is the ARRL Operations Manual.

>

>They are the (I believe) IARU (International Amateur Radio Union) official  
>Phoenetic Alphabet. The US Military uses something similar, but diferent.

I have noticed no differences between the two. (But I haven't examined them  
both \*extremely\* closely :-)

>

>Alpha  
>Bravo  
>Charlie  
>Delta  
>Echo  
>Foxtrot  
>Golf  
>Hotel  
>India  
>Juliet  
>Kilo  
>Lima  
>Mike  
>November  
>Oscar  
>Papa  
>Quebec  
>Romeo  
>Sierra  
>Tango  
>Uniform  
>Victor  
>Whiskey  
>X-ray  
>Yankee  
>Zulo

It's actually ZULU.

Don't forget the numbers, too! I think they are all normal, except 3 is  
"TREE", 5 is "FIFE", and 9 is "NINER". Anyone know any others I am missing.

>OBcurmudgeonliness;

>

>This is all from memory, I look forward to corrections, but most Amateurs  
>use ridiculous perversions, thus making the use of a phoentic alphabet an  
>excercise in futility anyways.

Sorry, don't see many corrections. ;-)

--

Will Turner, NORDV -----  
wjturner@iastate.edu | "Are you going to have any professionalism, |  
twp77@isuvax.iastate.edu | or am I going to have to beat it into you?" |  
TURNERW@vaxld.ameslab.gov -----

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Date: 12 Aug 93 16:54:39 EDT  
From: psinntp!pbs.org!pbs.org!jernandez@uunet.uu.net  
Subject: Six Meter Beacon Frequencies?  
To: info-hams@ucsd.edu

Can someone supply the frequencies of the DX beacons in use on the  
6 Meter band ? I have an R-7000 and would like to attempt to monitor  
some of these beacons.

Thanks  
John  
KA2YAP

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Date: Thu, 12 Aug 1993 20:54:42 GMT  
From: swrinde!sdd.hp.com!col.hp.com!news.dtc.hp.com!srigenprp!  
mikew@network.ucsd.edu  
Subject: training programs for amateur radio operators in emerg svc  
To: info-hams@ucsd.edu

I've done (mostly informal) training with the crew in my area. The  
weekly check-in nets that we have are a really good way of identifying  
the committed members of the team and also they are good training for  
net situations. We participatre in twice-annual county-wide drills  
and whatever other exercises we can work into.

Many of our local RACES/ ARES folks have also received training  
through the California Department of Forestry VIP communications  
teams. They have been taught two VERY useful classes: an 8 hour OSHA  
Haz-Mat "awareness level" class and an introductory class in the  
Incident Command System. I highly recommend these two classes. It's  
important to have the trust of the public safety agencies that your

folks won't cause more trouble than they prevent!

Others that I would encourage are some level of first aid/CPR; and Red Cross classes in sheltering or disaster assessment. I also advocate attending some training sessions or drills of your local hazardous materials team or disaster planners... Make your organization a familiar part of THEIR plans.

-mike

---

Mike Weihman    mikew@sad.hp.com    N1DJE

|                             |  |
|-----------------------------|--|
| Hewlett-Packard Co.         | ARES/RACES EC, Rohnert Park/Cotati, CA |
| Santa Rosa Systems Division |  |
| 1212 Valley House Drive     | Firefighter/EMT-D                      |
| Rohnert Park, CA 94928 USA  | Penngrove Fire Protection District     |
| (707) 794-4454              | Penngrove, CA                          |

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Date: Thu, 12 Aug 1993 20:54:10 GMT  
From: news.Hawaii.Edu!uhunix3.uhcc.Hawaii.Edu!jherman@ames.arpa  
To: info-hams@ucsd.edu

References <jfhCBMC0B.L9L@netcom.com>, <1993Aug12.153325.23719@ke4zv.uucp>,  
<140775@netnews.upenn.edu>  
Subject : Re: Bootlegger At ARRL N.E. Convention

In article <140775@netnews.upenn.edu> yee@mipg.upenn.edu (Conway Yee) writes:  
>  
>As a citizen of the US, you are NOT required to carry around ANY form of  
>identification.  
>

The state of California requires, by law, that you carry some form of ID with you. When I was a minor, I was reminded, very sternly, of that law by a police officer (it's little incidents like that which one remembers for a lifetime....)

Jeff NH6IL

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Date: 12 Aug 93 17:15:30 EDT  
From: world!ksr!jfw@uunet.uu.net  
To: info-hams@ucsd.edu

References <1993Aug11.181639.28316@es.dupont.com>, <jfhCBMC0B.L9L@netcom.com>,  
<1993Aug12.153325.23719@ke4zv.uucp>

Subject : Re: Bootlegger At ARRL N.E. Convention

gary@ke4zv.uucp (Gary Coffman) writes:

>In article <jfhCBMC0B.L9L@netcom.com> jfh@netcom.com (Jack Hamilton) writes:

>>collinst@esvx19.es.dupont.com wrote:

>>>You wanted bet your license that if the FCC sees you with a transmitter

>>>on your belt, asks to see your license and you refuse that they wouldn't

>>>suspend your license?

>>How would they know which license to suspend?

>The FCC has statutory authority to inspect any station for any reason

>at any reasonable hour.

And to directly answer Jack's actual question, though not definitively, they would probably find out when your lawyer let them know as part of the plea bargaining arrangement. If you refuse to show your license, they probably have "probable cause" to arrest you on the spot for unlicensed operation (remember, "probable cause" doesn't even have to come close to certainty). Childish games are rarely of much value when dealing with law enforcement personnel.

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Date: Thu, 12 Aug 1993 19:45:49 GMT

From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!

vixen.cso.uiuc.edu!sdd.hp.com!col.hp.com!fc.hp.com!jayk@network.ucsd.edu

To: info-hams@ucsd.edu

References <1993Aug12.005214.20557@pixar.com>,

<VBREAUULT.93Aug12132834@rinhp750.gmr.com>, <CBntLr.GI7@news.Hawaii.Edu>om

Reply-To : jayk@fc.hp.com

Subject : Re: Code learning questions

Jeff Herman (jherman@uhunix3.uhcc.Hawaii.Edu) wrote:

: In '76, when I sat for my General at the San Francisco FCC office, the test

: consisted of coded groups; we had to copy 1 solid minute of error-free

: code out of the X minutes it was sent. At the end we were ordered to

: immediately put down our pencils - no corrections were to be made. When

: was this type of test procedure changed, and why? (I was out of the hobby

: for 5 years or so...)

: Jeff, NH6IL

It was changed later in 76. The first time I took my extra in 76 it was one minute of copy. When I finally passed it, later the same year, it was the multiple choice test. Why it was changed I don't know but it sure made the test a lot easier to pass.

73, Jay K0GU                      jayk@fc.hp.com

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Date: 12 Aug 93 18:56:53 GMT  
From: agate!msuinfo!netnews.upenn.edu!mipg.upenn.edu!yee@ames.arpa  
To: info-hams@ucsd.edu

References <1993Aug11.181639.28316@es.dupont.com>, <jfhCBMC0B.L9L@netcom.com>,  
<1993Aug12.153325.23719@ke4zv.uucp>  
Subject : Re: Bootlegger At ARRL N.E. Convention

Sorry, but email kept on bouncing...

>So the short answer is that they could suspend \*any\* and \*all\*  
>licenses you may hold if they find you without the proper documents,  
>or if you refuse inspection.

True, in theory but in practice it is a little different when you are portable. If you refuse inspection, the FCC has no way of knowing WHICH station you actually are. In a home or mobile, it would be possible to track down the information via alternative means (i.e. home address, license plate of car) but when portable, no such means exists.

As a citizen of the US, you are NOT required to carry around ANY form of identification.

--  
411 Blockley Hall                      |                      Conway Yee, N2JWQ  
418 Service Drive                    | yee@ming.mipg.upenn.edu      (preferred)  
Philadelphia, PA 19104 | cy5@cunixa.cc.columbia.edu (forwarded to above)  
(215) 662-6780                       |

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End of Info-Hams Digest V93 #974  
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